Amendments to the Claims

1–7. (Cancelled)

8. (New) An optical add/drop amplification node configured to communicatively interconnect first and second optical fiber spans in an optical telecommunications system, the node comprising:

a channel add/drop device;

an output amplifier coupled to an output of the channel add/drop device;

a first input amplifier communicatively coupled between the first optical fiber span and an input of the channel add/drop device, and configured to output optical signals at a substantially constant output power, such that an output power of amplified spontaneous emission (ASE) noise produced by the first input amplifier compensates for a loss of signal power due to a break in the first optical fiber span; and

a second input amplifier configured to generate the compensating ASE noise responsive to a failure of the first input amplifier.

9. (New) The optical add/drop amplification node of claim 8 wherein the second input amplifier is coupled to the first input amplifier, and is configured to generate the compensating ASE noise responsive to detecting the failure of the first input amplifier.

10. (New) The optical add/drop amplification node of claim 9 wherein the second input amplifier is coupled to switch on responsive to detecting the failure of the first input amplifier.

11. (New) The optical add/drop amplification node of claim 10 wherein the second input amplifier comprises a photodiode configured to sense light output by a monitor output of the first input amplifier.

12. (New) The optical add/drop amplification node of claim 10 wherein the second input amplifier is configured to generate the compensating ASE noise at substantially the same constant output power as the first input amplifier prior to the failure of the first input amplifier.

13. (New) The optical add/drop amplification node of claim 8 wherein the channel add/drop device comprises an Optical Add/Drop Multiplexer (OADM) device.

14. (New) A method of maintaining channels added at an optical add/drop amplification node disposed between first and second optical fiber spans in an optical telecommunications system, the method comprising:

outputting amplified spontaneous emission (ASE) noise from a first input amplifier, such that an output power of the ASE noise compensates for a loss of signal power due to a break in the first optical fiber span; and

generating the ASE noise at a second input amplifier communicatively coupled to the first input amplifier responsive to detecting a failure of the first input amplifier.

15. (New) The method claim 14 further comprising monitoring the first input amplifier at the second input amplifier.

16. (New) The method of claim 15 wherein monitoring the first input amplifier at the second input amplifier comprises sensing light output by a monitor output of the first input amplifier.

17. (New) The method of claim 16 further comprising detecting that the first input amplifier has failed responsive to failing to sense the light output by the monitor output.

18. (New) The method of claim 16 further comprising switching the second input amplifier on to generate the ASE noise responsive to detecting that the first input amplifier has failed.

19. (New) The method of claim 14 wherein generating the ASE noise at a second input amplifier comprises outputting the ASE noise at substantially the same constant output power as the first input amplifier prior to the failure of the first input amplifier.